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EXAMINER

NGUYEN, KHAI MINH

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/088,458

Applicant(s)

LAAKSO ET AL.

Examiner

Khai M Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/04/2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12, 15-18, 20, 23-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Sawahashi et al. (U.S. Pat-5590409).

Regarding claim 1, Sawahashi teaches a method communication system, said system comprising a controller and a first station for communication with a second station with variable transmission power over a radio connection (fig.1, col.2, lines 13-28), wherein the controller provides the first station with a target for a transmission parameter of the radio connection and the first station adjusts the transmission power of the second station on basis of the target (fig.5, col.6, lines 41-54), comprising:

monitoring for a predefined condition (col.4, lines 15-29);

upon occurrence of the predefined condition, preventing use of a target for the transmission parameter exceeding a limit value for the target for the transmission parameter (fig.4, col.5, line 61 to col.6, line 7).

Regarding claim 2, Sawahashi teaches a method according to claim 1, wherein use of a target for the transmission parameter exceeding the limit value prevented at the first station (fig.4, col.1, lines 45-55, col.5, line 61 to col.6, line 7).

Regarding claim 3, Sawahashi teaches a method according to claim 1, wherein use of a target the transmission parameter exceeding the limit value is prevented at the controller (fig.4, col.1, lines 45-55, col.5, line 61 to col.6, line 7).

Regarding claim 4, Sawahashi teaches a method according to claim 1, wherein the limit value equals with the target for the transmission parameter in use at the moment of detecting the predefined condition (fig.4, col.1, lines 18-44, col.7, line 64 to col.8, line 13).

Regarding claim 5, Sawahashi teaches a method according to claim 4, wherein the target for the transmission parameter is held at the limit value until the condition is over (fig.1, col.1, lines 18-55).

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Regarding claim 6, Sawahashi teaches a method according to claim 1, wherein the predefined condition comprises a temporary power limitation situation at the first station (fig.5, col.6, lines 41-54).

Regarding claim 7, Sawahashi teaches a method according to claim 1, wherein the predefined condition comprises an overload situation at the first station (fig.5, col.1, lines 44-56, col.6, lines 41-54).

Regarding claim 8, Sawahashi teaches a method according to claim 1, wherein the predefined condition comprises a failure in the communication system (fig.5, col.6, lines 41-54).

Regarding claim 9, Sawahashi teaches a method according to claim 1, wherein the monitoring of the occurrence of the predefined condition is based on determination of the interference power of the radio connection (col.5, lines 3-14).

Regarding claim 10, Sawahashi teaches a method in according to claim 1, wherein the target for the transmission parameter comprises connection quality target (fig.1, fig.4, col.1, line 45 to col.2, line 12, col.5, line 61 to col.6, line 7).

Regarding claim 11, Sawahashi teaches a method according to claim 1, wherein the target for the transmission parameter comprises signaling energy/noise target (fig.1, fig.4, col.1, line 45 to col.2, line 12, col.5, line 61 to col.6, line 7).

Regarding claim 12, Sawahashi teaches a method according to claim 1, wherein the target for the transmission parameter comprises a target transmission power level of the transmission from the second station (fig.4, col.7, line 64 to col.8, line 13).

Regarding claim 15, Sawahashi teaches a method according to claim 1, wherein the controller controls the transmission powers between the first station and the second station by means of outer loop power control (col.3, line 66 to col.4, lines 8).

Regarding claim 16, Sawahashi teaches a method in accordance with claim 1, further comprising steps of:

receiving the target for the transmission parameter from the controller at the first station (fig.4, col.1, lines 45-55, col.5, line to col.6, line 7);

creating a further target for the transmission parameter at the first station for use in the transmission power adjustment (fig.5, col.6, lines 41-54), wherein the further target corresponds the target received from the controller until the predefined condition is detected where after the further target is prevented to exceed the limit value for the target and the target received from the controller is ignored (fig.1, col.1, line 45 to col.2, line 12).

Regarding claim 17, Sawahashi teaches a method in accordance with claim 1, further comprising steps of:

detecting a difference between the value of the target for the transmission parameter provided by the controller and the value of the target for the transmission parameter used for power control by the first station after the predefined condition is over (fig.1, col.2, lines 13-28); and

reducing the difference between the said two target values (fig.1, fig.2, col.2, lines 13-56).

Regarding claim 18, Sawahashi teaches a method according to claim 17, wherein reducing of the difference is based on history information of the target used for the power control prior the detection of the condition (fig.4, col.5, line 61 to col.6, line 7, col.2, lines 57-62).

Regarding claim 20, Sawahashi teaches a method according to claim 17, wherein the difference between the said two target values is reduced gradually (fig.1, fig.2, col.1, lines 45-56, col.2, lines 13-56).

Regarding claim 23, Sawahashi teaches a method according to claim 20, wherein the gradual reducing of the difference comprises requesting a decrease of the transmission power by an amount that greater than the amount of decrease requested

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in a normal mode of operation until the difference between the target values used by the first station and provided by the controller is below a predefined level (col.1, lines 45-56, col.2, lines 40-53).

Regarding claim 24, Sawahashi teaches a method according to claim 1, wherein the transmission power control is based on use of relative power control requests (fig.2, col.2, lines 28-53).

Regarding claim 25, Sawahashi teaches a method according to claim 1, wherein the communication system comprises a further station similar to the first station and the controller controls the transmission power of the second station by providing both first and the further station with targets for the transmission parameter (fig.1, col.1, line 57 to col.2, line 12).

Regarding claim 26, Sawahashi teaches a method according to claim 1, wherein connections between the first station and other stations are adjusted in a priority order (fig.1, col. Col.1, lines 57-67).

Regarding claim 27, Sawahashi teaches a method according to claim 1, wherein the controller comprises a radio network controller of a cellular communication system, the first station comprises a base station of the cellular communication system and the second station comprises a mobile station, and wherein the transmission power to be

adjusted comprises transmission power from at least one mobile station towards least one base station (fig.1, col.1, lines 45-56, col.2, lines 40-53).

Regarding claim 28, Sawahashi teaches a communication system, comprising:
a controller arranged to control transmission power of stations (fig.1, col.2, lines 13-28);

a first station and a second station capable of providing a communication path there between, wherein the controller is arranged to provide the first station with a target for use in control of the transmission power of the second station (fig.1, fig.5, col.2, lines 28-62, col.6, lines 41-54);

monitoring means for monitoring for a predefined condition (col.4, lines 15-29);
and

means for preventing use of a target for the transmission parameter exceeding a limit value for the target for the transmission parameter upon occurrence of the predefined condition (fig.4, col.5, line 61 to col.6, line 7).

Regarding claim 29, Sawahashi teaches a communication system according to claim 28, further comprising at the first station a first target functionality for receiving the target from the controller and a further target functionality for generating a further target for the transmission parameter (fig.6, col.7, lines 1-21), wherein the arrangement is such that the further target is used for the power control of the second station and corresponds the target provided by the controller unless the predefined condition is

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detected where after the further target set such that the limit value for the target for the transmission parameter is not exceeded (fig.6, fig 7a-7b, col.7, lines 1-30).

Regarding claim 30, Sawahashi teaches a communication system according to claim 29, further comprising detecting means for detecting a difference between target and the further target and recovery means for reducing the difference after the predefined condition is over (fig.4, col.8, lines 24-64).

Regarding claim 31, Sawahashi teaches a communication system according to claim 30, wherein the recovery means are arranged to reduce the difference gradually (fig.1, fig.2, col.1, lines 45-56, col.2, lines 13-56).

Regarding claim 32, Sawahashi teaches a communication system according to claim 28, wherein the controller comprises a radio network controller of a cellular communication system, the first station comprises a base station of the cellular communication system and the second station comprises a mobile station (fig.1, col.1, lines 57-67), and wherein the transmission power to be adjusted comprises transmission power from at least one mobile station towards at least one base station (col.1, lines 44-56).

Regarding claim 33, Sawahashi teaches a station of a communication system, said station controlling transmission power of a further station transmitting towards the station (fig.1, col.2, lines 13-28), wherein the station is arranged to:

receive a target for a transmission parameter provided by a controller of the communication system for use in the control of transmission power of the further station (fig.1, fig.5, col.2, lines 28-62, col.6, lines 41-54);

monitor for a predefined condition (col.4, lines 15-29); and

upon occurrence of the predefined condition, to prevent use of targets for the transmission parameter exceeding a limit value for the target for the transmission parameter (fig.4, col.5, line 61 to col.6, line 7).

Regarding claim 34, Sawahashi teaches a station according to claim 33, further comprising a first target functionality for receiving the target for the transmission parameter provided by the controller and a further target functionality for generating a further target for the transmission parameter (fig.6, col.7, lines 1-21), wherein the arrangement is such that the further target is used for the power control of the further station and corresponds the target received from the controller unless the predefined condition is detected where after the further target is set by the further target functionality such that the limit value for the target is not exceeded (fig.6, fig.7a-7b, col.7, lines 1-30).

Regarding claim 35, Sawahashi teaches a station according to claim 34, further comprising detecting means for detecting a difference between the target and the further target and recovery means for reducing the difference after the predefined condition is over (fig.4, col.8, lines 24-64).

Regarding claim 36, Sawahashi teaches a station according to claim 35, wherein the recovery means are arranged to reduce the difference gradually (fig.1, fig.2, col.1, lines 45-56, col.2, lines 13-56).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-14, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawahashi (U.S. Pat-5590409) in view of Blanc (U.S. Pat-6430398).

Regarding claim 13, Sawahashi teaches a method according to claim1.

Sawahashi fails to specifically disclose the step of preventing the target for the transmission parameter to exceed the limit value comprises ignoring power control commands at the first station until the predefined condition is over. However, Blanc teaches the step of preventing the target for the transmission parameter to exceed the

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limit value comprises ignoring power control commands at the first station until the predefined condition is over (fig.1, col.4, line 13 to col.5, line 16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the step of preventing the target for the transmission parameter to exceed the limit value comprises ignoring power control commands at the first station until the predefined condition is over as taught by Blanc with Sawahashi teaching in order to applied to uplink power control, downlink power control, or both uplink and downlink power control.

Regarding claim 14, Sawahashi teaches a method according to claim 1.

Sawahashi fails to specifically disclose the target for the transmission parameter to exceed the predefined value comprises preventing a generation of new power control commands at the controller until the predefined condition is over. However, Blanc teaches the target for the transmission parameter to exceed the predefined value comprises preventing a generation of new power control commands at the controller until the predefined condition is over (fig.1, col.4, line 13 to col.5, line 16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the target for the transmission parameter to exceed the predefined value comprises preventing a generation of new power control commands at the controller until the predefined condition is over as taught by Blanc with Sawahashi teaching in order to applied to uplink power control, downlink power control, or both uplink and downlink power control.

Regarding claim 21, Sawahashi teaches a method according to claim 20.

Sawahashi fails to specifically disclose the gradual reducing of the difference comprises steps of: ignoring a request from the controller to reduce the transmission power until the difference between the target values used by the first station and provided by the controller is below a predefined level; and subtracting a predefined amount from the difference as response to said request. However, Blanc teaches the gradual reducing of the difference comprises steps of: ignoring a request from the controller to reduce the transmission power until the difference between the target values used by the first station and provided by the controller is below a predefined level; and subtracting a predefined amount from the difference as response to said request (fig.1, col.4, line 13 to col.5, line 16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the gradual reducing of the difference comprises steps of: ignoring a request from the controller to reduce the transmission power until the difference between the target values used by the first station and provided by the controller is below a predefined level; and subtracting a predefined amount from the difference as response to said request as taught by Blanc with Sawahashi teaching in order to applied to uplink power control, downlink power control, or both uplink and downlink power control.

Regarding claim 22, Sawahashi further teaches a method according to claim 21, wherein the predefined amount corresponds the requested decrease of the transmission power (fig.1, col.2, lines 48-53, col.3, line 66 to col.4, line 8).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sawahashi (U.S. Pat-5590409) in view of Ariyavisitakul et al. (U.S. Pat-533175).

Regarding claim 19, Sawahashi teaches a method according to claim 17.

Sawahashi fails to specifically disclose the step of reducing the difference comprises changing the value of the target provided by the controller to equal values of the target used by the first station for controlling the transmission power at the moment the condition is detected to be over. However, Ariyavisitakul teaches the step of reducing the difference comprises changing the value of the target provided by the controller to equal values of the target used by the first station for controlling the transmission power at the moment the condition is detected to be over (fig.4-5, col.16, line 50 to col.17, line 20). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the step of reducing the difference comprises changing the value of the target provided by the controller to equal values of the target used by the first station for controlling the transmission power at the moment the condition is detected to be over as taught by Ariyavisitakul with Sawahashi teaching in order to adjusting the uplink or downlink power up or down each frame.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Nystrom et al. (U.S. Pat-6334058) discloses Method and apparatus for radio power allocation to a channel during channel assignment based on current system conditions.

b) Weaver et al. (U.S. Pat-5727033) discloses Symbol error based power control for mobile telecommunication system,

c) Amezawa et al. (U.S. Pat-5455967) disclose Mobile communication system and transmission power control method for a base station therein.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M Nguyen whose telephone number is 703.305.3906. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703.308.7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Khai Nguyen
Au: 2684
Initial :

8/30/2004



NICK CORSARO
PRIMARY EXAMINER